

REMARKS

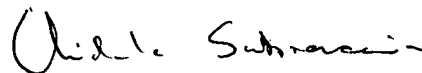
It appears that the Examiner has not considered the after-final amendment filed by the Applicant on September 10, 2001.

The Applicant thanks the Examiner for the telephone discussions with the Applicant's representative on June 27, 2002. As per the conversation, the Applicant attaches a copy of the §1.116 Amendment filed on September 10, 2001. Applicant respectfully requests that the Examiner fully consider this amendment.

In view of the above, allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Date: June 27, 2002



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PLEASE DATE STAMP AND RETURN TO US - BOX 235X

In re application of

SHIMURA, KAZUO

Appln. No. 09/449,611

Confirmation No.: Not yet assigned

Filed: November 30, 1999

For: IMAGE DISPLAY SYSTEM

PAPER(S) FILED ENTITLED:



Group Art Unit: 2871

Examiner: Parker, K.

1. Amendment Under 37 C.F.R. § 1.116
2. Petition for Extension of Time (in duplicate with Check No. 181435 in the amount of \$ 390.00).

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DOCKET NO.: Q56989
ATTORNEY/SEC: DM/CXS/rrs

Date Filed: September 10, 2001

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AMENDMENT UNDER 37 C.F.R. § 1.116
EXPEDITED PROCEDURE
GROUP 2871
PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

SHIMURA, KAZUO

Appln. No.: 09/449,611

Confirmation No.: Not yet assigned

Group Art Unit: 2871

Filed: November 30, 1999

Examiner: Parker, K.

For: IMAGE DISPLAY SYSTEM

AMENDMENT UNDER 37 C.F.R. § 1.116

ATTN: BOX AF
Commissioner for Patents
Washington, D.C. 20231

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Sir:

In response to the Office Action dated May 8, 2001, please amend the above-identified application as follows:

IN THE CLAIMS:

Please enter the following amended claims:

15. (Twice Amended) A black and white image display system in which an image signal is reproduced as a visual image on a pixelized screen having a number of picture elements arranged in horizontal and vertical directions, wherein the improvement comprises that

the density of the picture elements in the horizontal direction is higher than that in the vertical direction

in which the dimension in the vertical direction of each picture element is larger than that in the horizontal direction.

16. (Twice Amended) A black and white image display system in which an image signal is reproduced as a visual image on a pixelized screen having a number of picture elements arranged in horizontal and vertical directions, wherein the improvement comprises that

the density of the picture elements in the horizontal direction is higher than that in the vertical direction

in which said image signal is such on which picture element density conversion processing for causing the density of the picture elements in the horizontal direction to be higher than that in the vertical direction has been carried out.

17. (Twice Amended) A black and white image display system in which an image signal is reproduced as a visual image on a pixelized screen having a number of picture elements arranged in horizontal and vertical directions, wherein the improvement comprises that

the density of the picture elements in the horizontal direction is higher than that in the vertical direction

in which said image signal is such read out in such a manner that the density of the picture elements in the horizontal direction becomes higher than that in the vertical direction.

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18. (Twice Amended) A black and white image display system in which an image signal is reproduced as a visual image on a pixelized screen having a number of picture elements arranged in horizontal and vertical directions, wherein the improvement comprises that

the density of the picture elements in the horizontal direction is higher than that in the vertical direction

in which said image signal is such read out on the basis of picture elements whose dimensions are larger in the vertical direction than in the horizontal direction.

19. (Twice Amended) A black and white image display system in which an image signal is reproduced as a visual image on a pixelized screen having a number of picture elements arranged in horizontal and vertical directions, wherein the improvement comprises that

the density of the picture elements in the horizontal direction is higher than that in the vertical direction

in which said image signal is such read out on the basis of picture elements whose dimensions are larger in the vertical direction than in the horizontal direction and at the same time whose density is higher in the horizontal direction than in the vertical direction.

REMARKS

Claims 15-25 are all the claims pending in the application.

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Claims 15-19 have been amended to claim a black and white display system as opposed to an image display system.

All the rejections in the previous Office Action based on prior art have been maintained.

Specifically, Claims 15, 17-20, 22 and 24 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Parulski et al. (5,818,406).

Claims 15, 17-20, 22 and 24 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Ishimoto et al. (5,594,564).

Claims 15, 17-20, 22 and 24 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Aoki et al. (4,654,117).

Claim 25 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Parulski et al. (5,818,406).

Claims 16 and 25 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishimoto et al. (5,594,564).

Claims 16 and 25 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Aoki et al. (4,654,117).

The Applicants amend claims 15-19 to now recite a black and white image display system as opposed to simply an image display system. The Applicants respectfully submit that a black and white image display system as in the present invention is not obvious over the cited references at least because of the following reasons.

Parulski and Aoki suggest a color image display system. In Parulski and Aoki, the density of the picture element in the horizontal direction is higher than that in the vertical direction for each R, G, and B on display.

However, when a person perceives an image that is displayed, a set of three picture elements for (R,G,B) is perceived together as a minimum unit for representing the image. Therefore, in order achieve the same advantages as the white and black display system of the present invention, it is required that the density of the picture element unit in the horizontal direction be higher than that in the vertical direction for a picture element unit in which three elements for (R,G,B) is perceived together. Parulski or Aoki, separately or in combination, do not teach or suggest this point.

Ishimoto, on the other hand, teaches a system for displaying one-dimensional hologram and does not teach a black and white display system as in the present invention. Further, in Ishimoto, the purpose of increasing the density in the horizontal direction is to reproduce the phase distribution of the one-dimensional hologram accurately. However, unlike in the present invention, Ishimoto does not take into account characteristics of human visual response in horizontal and vertical directions. Therefore, a skilled artisan would not have found it obvious to apply the suggestions of Ishimoto to a black and white display system as in the present invention.


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The Applicants respectfully submit that the cited references Parulski, Aoki and Ishimoto, taken separately or in combination do not suggest a black and white display system as in the present invention as recited in claims 15-25.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



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Date: September 10, 2001

APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

15. (Twice Amended) [An] A black and white image display system in which an image signal is reproduced as a visual image on a pixelized screen having a number of picture elements arranged in horizontal and vertical directions, wherein the improvement comprises that

the density of the picture elements in the horizontal direction is higher than that in the vertical direction

in which the dimension in the vertical direction of each picture element is larger than that in the horizontal direction.

16. (Twice Amended) [An] A black and white image display system in which an image signal is reproduced as a visual image on a pixelized screen having a number of picture elements arranged in horizontal and vertical directions, wherein the improvement comprises that

the density of the picture elements in the horizontal direction is higher than that in the vertical direction

in which said image signal is such on which picture element density conversion processing for causing the density of the picture elements in the horizontal direction to be higher than that in the vertical direction has been carried out.

17. (Twice Amended) [An] A black and white image display system in which an image signal is reproduced as a visual image on a pixelized screen having a number of picture elements arranged in horizontal and vertical directions, wherein the improvement comprises that

the density of the picture elements in the horizontal direction is higher than that in the vertical direction

in which said image signal is such read out in such a manner that the density of the picture elements in the horizontal direction becomes higher than that in the vertical direction.

18. (Twice Amended) [An] A black and white image display system in which an image signal is reproduced as a visual image on a pixelized screen having a number of picture elements arranged in horizontal and vertical directions, wherein the improvement comprises that

the density of the picture elements in the horizontal direction is higher than that in the vertical direction

in which said image signal is such read out on the basis of picture elements whose dimensions are larger in the vertical direction than in the horizontal direction.

19. (Twice Amended) [An] A black and white image display system in which an image signal is reproduced as a visual image on a pixelized screen having a number of picture elements arranged in horizontal and vertical directions, wherein the improvement comprises that

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the density of the picture elements in the horizontal direction is higher than that in the vertical direction

in which said image signal is such read out on the basis of picture elements whose dimensions are larger in the vertical direction than in the horizontal direction and at the same time whose density is higher in the horizontal direction than in the vertical direction.